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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Rogier Noldus

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ERICSSON INC.
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EXAMINER

TAYLOR, BARRY W

ART UNIT

PAPER NUMBER

2617

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,075	Applicant(s) NOLDUS ET AL.	
	Examiner Barry W. Taylor	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4 and 10-11, and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Skog (6,427,076).

Regarding claim 1. Skog teaches a method of providing a location specific service in a digital cellular communication network using unstructured supplementary service data, wherein said service data is sent to a network node of said network by at least one mobile station (col. 3 lines 29-42, col. 4 lines 15-60, col. 5 lines 1-20), said service being dependent of location information of said at least one mobile station, wherein said method comprises a step of

including location information in said service data by said network node (**see col. 5 lines 45-50 wherein the MS has completely changed locations and as a result, the MSC/VLR sends a MAP UPDATE to the HLR with the new location information**).

Regarding claim 11. Skog teaches a network node for a telecommunications network comprising an input unit for receiving unstructured supplementary service data from at least one mobile station (col. 3 lines 29-42, col. 4 lines 15-60, col. 5 lines 1-20), comprising

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a processing unit for processing said service data (see col. 5 lines 45-50 wherein the MS has completely changed locations and as a result, the MSC/VLR sends a MAP UPDATE to the HLR with the new location information), and

means for maintaining location information of said at least one mobile station, wherein said processing unit is arranged for including said location information of said at least one mobile station in said service data (see col. 5 lines 45-50 wherein the MS has completely changed locations and as a result, the MSC/VLR sends a MAP UPDATE to the HLR with the new location information).

Regarding claims 2 and 13. Skog teaches MSC forwards the service data to a storage unit (**see col. 5 lines 45-50 wherein the MS has moved completely changed locations and as a result, the MSC/VLR sends a MAP UPDATE to the HLR with the new location information**).

Regarding claims 3 and 14. Skog teaches the storage unit is HLR (**see col. 5 lines 45-50 wherein the MS has moved completely changed locations and as a result, the MSC/VLR sends a MAP UPDATE to the HLR with the new location information**).

Regarding claims 4 and 15. Skog teaches the storage unit is associated with an external service node (see col. 5 lines 51-53 wherein HLR also sends MAP message to the **new MSC/VLR**).

Regarding claims 10 and 16. Skog teaches wherein said network node is a mobile services switching centre (**see col. 5 lines 45-50 wherein the MS has moved**

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completely changed locations and as a result, the MSC/VLR sends a MAP UPDATE to the HLR with the new location information).

2. Claims 1-4 and 10-11, and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Bhatia (5,930,669).

Regarding claim 1. Bhatia teaches a method of providing a location specific service in a digital cellular communication network using unstructured supplementary service data, wherein said service data is sent to a network node of said network by at least one mobile station, said service being dependent of location information of said at least one mobile station (abstract, col. 1 lines 30-52, col. 2 lines 1-27), wherein said method comprises a step of

including location information in said service data by said network node (see col. 2 lines 28-45 wherein the location area/cell global identity information is determined by the node and this data plus the original request are transmitted to a relational database using USSD messages. See col. 3 lines 10-25 wherein MSC/VLR determines the present location area/or cell global identity for the mobile and this data plus the original request are used to locate restaurants for the mobile user).

Regarding claim 11. Bhatia teaches a network node for a telecommunications network comprising an input unit for receiving unstructured supplementary service data from at least one mobile station (abstract, col. 1 lines 30-52, col. 2 lines 1-27), comprising

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a processing unit for processing said service data (see col. 2 lines 28-45 wherein the location area/cell global identity information is determined by the node and this data plus the original request are transmitted to a relational database using USSD messages. See col. 3 lines 10-25 wherein MSC/VLR determines the present location area/or cell global identity for the mobile and this data plus the original request are used to locate restaurants for the mobile user) and

means for maintaining location information of said at least one mobile station, wherein said processing unit is arranged for including said location information of said at least one mobile station in said service data (see col. 2 lines 28-45 wherein the location area/cell global identity information is determined by the node and this data plus the original request are transmitted to a relational database using USSD messages. See col. 3 lines 10-25 wherein MSC/VLR determines the present location area/or cell global identity for the mobile and this data plus the original request are used to locate restaurants for the mobile user).

Regarding claims 2 and 13. Bhatia teaches MSC forwards the service data to a storage unit (see col. 2 lines 28-45 wherein the location area/cell global identity information is determined by the node and this data plus the original request are transmitted to a relational database using USSD messages. See col. 3 lines 10-25 wherein MSC/VLR determines the present location area/or cell global identity for

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the mobile and this data plus the original request are used to locate restaurants for the mobile user).

Regarding claims 3 and 14. Bhatia teaches the storage unit is HLR (**see col. 2 lines 28-45 wherein the location area/cell global identity information is determined by the node and this data plus the original request are transmitted to a relational database using USSD messages. See col. 3 lines 10-25 wherein MSC/VLR determines the present location area/or cell global identity for the mobile and this data plus the original request are used to locate restaurants for the mobile user. See figure 1 wherein MSC/VLR sends USSD message to HLR wherein the HLR determines location based services to provide to the mobile station user).**

Regarding claims 4 and 15. Bhatia teaches the storage unit is associated with an external service node (**see col. 2 lines 28-45 wherein the location area/cell global identity information is determined by the node and this data plus the original request are transmitted to a relational database using USSD messages. See col. 3 lines 10-25 wherein MSC/VLR determines the present location area/or cell global identity for the mobile and this data plus the original request are used to locate restaurants for the mobile user. See figure 1 wherein MSC/VLR sends USSD message to external service node wherein the service node determines the location based services to provide to the mobile station user).**

Regarding claims 10 and 16. Bhatia teaches wherein said network node is a mobile services switching centre (**See col. 3 lines 10-25 wherein MSC/VLR**

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determines the present location area/or cell global identity for the mobile and this data plus the original request are used to locate restaurants for the mobile user)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-4, 7-8, 10-11, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art (hereinafter AAPA) in view of Bhaumick (2004/0248546).

Regarding claim 11. AAPA teaches a network node for a telecommunications network comprising an input unit for receiving unstructured supplementary service data from at least one mobile station, comprising a processing unit for processing said service data, means for maintaining location information of said at least one mobile

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station (see Applicants specification in Pub. No.: US 2006/0229084 paragraphs 0003 - 0013 wherein Mobile station sends unstructured supplementary service data to network wherein USSD contains the cell identifier where the Mobile Station is roaming).

AAPA does not show wherein said processing unit is arranged for including said location information of said at least one mobile station in said service data, instead the Mobile Station sends USSD plus cell identifier to MSC.

Bhaumick also discloses that prior art (see paragraph 0005) teaches the mobile radio apparatus transmits USSD containing the mobile stations current location to MSC. Bhaumick discloses the drawback of having the mobile send USSD containing the mobile stations current location is that special module or interface is needed in every mobile station and the software and/or hardware of each HLR must also be modified. Therefore, Bhaumick teaches the updating location information of the mobile station without the need to have the mobile station send USSD containing the mobile stations current location (paragraph 0006). Bhaumick teaches the location of the mobile station is determined based on the individual cells of base stations (paragraph 00008) wherein the base station and/or node of the cell in which the mobile station is situated at the time updates and stores the location information of the mobile (paragraph 0008). Bhaumick discloses the advantage of updating and storing location information of the mobile at the base station or node is that the entry of location information in a central database can be updated (see paragraph 0008 lines 37-45, paragraph 0009 wherein the **advantage of updating and storing location information of the mobile at the base stations or node is that the entry of location information in a central database can**

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be updated, see data messages used to update a central database). Bhaumick teaches updating location information of a mobile by means of USSD messages that is sent from a base station or node to a central database (paragraphs 0014 - 0017). Bhaumick teaches the location information of the mobile is then used for billing and providing location based services to the mobile and the record further includes location information indicating to which MSC the mobile station is momentarily allocated (paragraph 0019). Bhaumick further discloses that when a mobile leaves the geographical area covered by an MSC and enters the area covered by another MSC the **data record for the mobile station is transferred to the other MSC** by means of USSD message (paragraph 0019 lines 75-107). Bhaumick teaches that SMS messages may be used to obtain the current cell id where the mobile is currently located (paragraphs 0021, 0026). **Bhaumick at paragraph 0014 reveals the location information of the mobile is updated and stored in the HLR by means of USSD, SMS, or MMS. Bhaumick at paragraph 0016 reveals that the location information of the mobile is updated and stored in the home location register and/or VLR by means of USSD, SMS, or MMS message.** Bhaumick even teaches using SMS message to obtain the current cell id and the **cell id is updated in the MSCNLR** (paragraph 0021).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify AAPA with the teachings of Bhaumick in order to update the mobile stations location by having the base station forward the cell id of the mobile station

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current location to a central database thereby saving system cost by not having each mobile station contain special modules or interfaces as disclosed by Bhaumick.

Regarding claim 1. Method claim 1 is rejected for the same reasons as apparatus claim 11 since the recited elements would perform the claimed method.

Regarding claims 2 and 13. Bhaumick teaches wherein said network node is a MSC and forwards said service data to a storage unit (see paragraph 0008 wherein Bhaumick teaches the location of the mobile station is determined based on the individual cells of base stations wherein the base station and/or node of the cell in which the mobile station is situated at the time updates and stores the location information of the mobile. Bhaumick discloses the advantage of updating and storing location information of the mobile at the base station or node is that the entry of location information in a central database can be updated (see paragraph 0008 lines 37-45, paragraph 0009 **wherein the advantage of updating and storing location information of the mobile at the base stations or node is that the entry of location information in a central database can be updated, see data messages used to update a central database**, see data messages used to update a central database in paragraph 0009). Bhaumick teaches updating location information of a mobile by means of USSD messages that is sent from a base station or node to a central database (paragraphs 0014 - 0017). Bhaumick teaches the location information of the mobile is then used for billing and providing location based services to the mobile and the record further includes location information indicating to which MSC the mobile

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station is momentarily allocated (paragraph 0019). Bhaumick further discloses that when a mobile leaves the geographical area covered by an MSC and enters the area covered by another MSC the **data record for the mobile station is transferred to the other MSC by means of USSD message** (paragraph 0019 lines 75-107). Bhaumick teaches that SMS messages may be used to obtain the current cell id where the mobile is currently located (paragraphs 0021, 0026). **Bhaumick at paragraph 0014 reveals the location information of the mobile is updated and stored in the HLR by means of USSD, SMS, or MMS. Bhaumick at paragraph 0016 reveals that the location information of the mobile is updated and stored in the home location register and/or VLR by means of USSD, SMS, or MMS message.** Bhaumick even teaches using SMS message to obtain the current cell id and the **cell id is updated in the MSCNLR** (paragraph 0021).

Regarding claims 3 and 14. Bhaumick teaches wherein said storage unit is a Home Location Register (see paragraph 0008 lines 41-44 wherein the central database may typically be a home location register).

Regarding claims 4 and 15. Bhaumick teaches wherein said storage unit is associated with an external service node (see paragraph 0019 lines 75-107 wherein MSC's may transfer mobile station location information to one another, see paragraph 0021 wherein **Cell ID is updated in the MSCNLR**).

Regarding claim 7. AAPA teaches location of subscriber used for location-based charging (see Applicants specification Pub. No.: US 2006/0229084 paragraph 0006). Bhaumick teaches location-based services in paragraph 0009. Bhaumick also teaches

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location of subscriber used for billing (paragraph 0019 lines 51-57). Bhaumick teaches using USSD to update user's location which allows for location-based services to be provided (paragraph 0026). Bhaumick even teaches using geographical speed of movement used to provide location based services (paragraph 0026).

Regarding claim 8. AAPA teaches location of subscriber used for time-dependent charging (see Applicants specification Pub. No.: US 2006/0229084 paragraph 0007). Bhaumick also teaches location of subscriber used for billing (paragraph 0019 lines 51-57).

Regarding claims 10 and 16. Bhaumick teaches the network node is a mobile services switching centre (see paragraph 0019 lines 44-107 wherein Bhaumick further discloses that when a mobile leaves the geographical area covered by an MSC and enters the area covered by another MSC the data record for the mobile station is transferred to the other MSC by means of USSD message). Bhaumick teaches cell id is updated in the **MSC**NLR (paragraph 0021).

4. Claims 5-6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art (hereinafter AAPA) in view of Bhaumick (2004/0248546) further in view of Koster (2005/0009499 hereinafter Koster).

Regarding claims 5 and 12. Bhaumick does not explicitly show wherein said network node further includes a Reference Number in said service data. However, Bhaumick does teach using cell id to determine where the mobile station is currently located to produce mobile station location records which are then used for billing and offering location-based services to mobile stations.

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Koster teaches systems and methods for billing a mobile wireless subscriber for location services (title, abstract) wherein billing of subscribers of wireless services based on a rating profile comprising antenna information, sector information, and a billing rate as applied to call detail records generated in association with wireless communications (paragraphs 0001, 0043, 0044). Koster also teaches time-based billing (paragraphs 0007, 0012, 0056). Koster teaches CDR records having record id which concatenates a switch identifier with a date/time stamp (paragraph 0047). Koster teaches using a Network ID to indicate the network that the call originated on (paragraph 0050) which allows a service provider to identify separate networks. Koster teaches using antenna field used to uniquely identify antenna (paragraph 0050). Koster teaches concatenating a Mobile Switch Center identifier with the antenna number (paragraph 0050). Koster even teaches using a sector number (paragraph 0051). Koster teaches that the switch typically records call detail records in chronological order for all subscribers served by the switch and a billing system then combines the call records for a single mobile subscriber into a single file (paragraphs 0053 - 0056).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the teachings of AAPA in view of Bhaumick to use a reference number as taught by Koster in order to bill wireless subscribers based on subscribers location at the time the call was made as disclosed by Koster.

Regarding claim 6. AAPA in view of Bhaumick teach forwarding location information of a mobile station to a central database for billing but fail to show using a reference number to correlate a service data call detail records.

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Koster teaches systems and methods for billing a mobile wireless subscriber for location services (title, abstract) wherein billing of subscribers of wireless services based on a rating profile comprising antenna information, sector information, and a billing rate as applied to call detail records generated in association with wireless communications (paragraphs 0001, 0043, 0044). Koster also teaches time-based billing (paragraphs 0007, 0012, 0056). Koster teaches CDR records having record id which concatenates a switch identifier with a date/time stamp (paragraph 0047). Koster teaches using a Network ID to indicate the network that the call originated on (paragraph 0050) which allows a service provider to identify separate networks. Koster teaches using antenna field used to uniquely identify antenna (paragraph 0050). Koster teaches concatenating a Mobile Switch Center identifier with the antenna number (paragraph 0050). Koster even teaches using a sector number (paragraph 0051). Koster teaches that the switch typically records call detail records in chronological order for all subscribers served by the switch and a billing system then combines the call records for a single mobile subscriber into a single file (paragraphs 0053 - 0056).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the teachings of AAPA in view of Bhaumick to use a reference number as taught by Koster in order to bill wireless subscribers based on subscribers location at the time the call was made as disclosed by Koster.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art (hereinafter AAPA) in view of Bhaumick (2004/0248546) further in view of Elliott et al (2008/0095339 hereinafter Elliott).

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Regarding claim 9. AAPA in view of Bhaumick do not explicitly show wherein said storage unit keeps a register of location identifiers, such as cell identifiers or service area identifiers, mapped on geographical time zone data, and a correction factor applicable for any cell that resides in a time zone different from the time zone of said network node.

Elliott teaches transferring billing information across telephone switches wherein a time offset is used to account for different time zones and daylight savings time changes (paragraphs 3361, 3367, 3401) which allows switches to store accurate timing data related to call detail records. Elliott also teaches using unique identifier so call records from a plurality of switches can be combined in the call detail record (paragraphs 3362, 3363, 3369, 3370, 3372).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify AAPA in view of Bhaumick to use an offset and unique identifier as disclosed by Elliott in order to allow the network to account for different time zones and daylight savings time changes when creating call detail records for telephone calls that cover different geographic locations as disclosed by Elliott.

Response to Arguments

6. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W. Taylor, telephone number (571) 272-7509, who is available Monday-Thursday, 6:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kent Chang, can be reached at (571) 272-7667. The central facsimile phone number for this group is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (571) 272-2600, the 2600 Customer Service telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Centralized Delivery Policy: For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the central fax number **(571-273-8300)**.

/Barry W Taylor/

Primary Examiner, Art Unit 2617